

In the claims:

1. (Previously Amended) A surgical system, comprising:
 - a surgical robot for manipulating a surgical tool to a surgical site during a surgical procedure;
 - an attachment member configured and dimensioned to mount the surgical robot on a bone associated with said surgical site, such that said robot is supported in its entirety by said bone; and
 - a controller programmed prior to said surgical procedure to direct the robot to position the surgical tool at the surgical site.
2. (Original) The surgical system according to claim 1, wherein said robot comprises:
 - a base member;
 - at least four actuators extending outward from the base member at fixed angles, said actuators being arranged in cooperating pairs, said pairs together defining a spherical joint at cooperating ends opposite the base member, and
 - a surgical tool held by said spherical joints.
3. (Previously Amended) The surgical system according to claim 1, wherein said surgical tool comprises at least one of a tool guide, a cutting member and a drilling member.
4. (Original) The surgical system according to claim 2, wherein said actuators define a longitudinal axis and are configured to provide only translational movement along said axis.
5. (Original) The surgical system according to claim 2, wherein surgical site lies at least approximately within a defined plane and said surgical robot is configured and dimensioned such that said base member is at least approximately perpendicular to said defined plane.
6. (Original) The surgical system according to claim 1, wherein said robot comprises a miniature parallel robot.
7. (Canceled)
8. (Original) The surgical system according to claim 1, wherein said attachment member comprises a robot receiving adaptor mounted on a bone attachment portion.

9. (Original) The surgical system according to claim 8, wherein said bone attachment portion comprises a clamp having at least two jaws shaped to mate with a specific bone configuration.

10. (Original) The surgical system according to claim 8, wherein said bone attachment portion comprises at least one wire configured and dimensioned to be received in bone holes.

11. (Original) The surgical system according to claim 1, wherein said controller comprises a cpu and user interface communicating with said robot, said cpu containing a program for guiding the robot based on data generated from surgical site images.

12. (Original) The surgical system according to claim 11, wherein said surgical site images are created prior to each surgical procedure requiring a new location for the support member.

13. (Previously Amended) A surgical system for facilitating a surgical procedure at a surgical site, comprising:

a surgical robot comprising a base member; two pairs of actuators extending outward from the base member at fixed angles, wherein said actuators each have first and second ends, said first ends of a pair being spaced apart on said base member and said second ends of a pair coming together to define a tool holding element;

an attachment member removably securable to the robot base member and configured and dimensioned to mount the surgical robot on a bone associated with said surgical site, such that said robot is supported in its entirety by said bone; and

a controller including a cpu and user interface communicating with said robot, said cpu containing a program for guiding the robot based on data generated from surgical site images created prior to said surgical procedure.

14-32. (Withdrawn)

33. (Previously amended) The surgical system of claim 1, wherein said controller is further programmed to locate said surgical robot with respect to a patient anatomy based on at least one of at least one three dimensional pre-operative patient image and at least one further intra-operative patient image including said attachment member.

34. (Previously Added) The surgical system of claim 33, wherein said controller is further programmed with instructions for execution of a surgical plan based on said determined surgical robot location.

35. (Previously Added) The surgical system of claim 1, wherein said controller is further programmed with instructions for registering said surgical robot positionally with at least one pre operative three dimensional image of a patient.

36-44. (Canceled)

45. (Previously amended) A surgical system of claim 1, wherein said robot comprises at least 3 actuators mounted on said base member, at least one of said actuator being configured for at least translational or rotational movement.

46. (Previously amended) A surgical system, comprising:

a surgical robot for manipulating a surgical tool to a surgical site during a surgical procedure;

an attachment member comprising a bone attachment portion configured for mounting on a patient bone, such that said robot is supported in its entirety by said bone; and

a robot receiving portion mounted on said bone attachment portions,

wherein said robot receiving portion is alignable on said bone attachment portion to provide a robot receiving surface of a selected orientation; and

a controller programmed to locate said surgical robot with respect to a patient anatomy.

47. (Previously added) The surgical system of claim 46, wherein a selected orientation of said robot receiving surface is horizontal.

48. (Previously added) The surgical system of claim 46, wherein said controller is further programmed with instructions for execution of a surgical plan based on said determined surgical robot location.

49. (Previously added) The surgical system of claim 46, wherein said controller is further programmed with instructions for registering said surgical robot positionally with at least one pre operative three dimensional image of a patient.

50. (Previously amended) The surgical system of claim 46, and also comprising a clamp adapter attached to said bone attachment portion, wherein said bone attachment portion includes at least one substantially spherical mating surface for mating with the robot receiving portion, and wherein said substantially spherical mating surface provides a selectable range of orientation for said clamp adapter.

51. (Previously added) The surgical system of claim 46, wherein said bone attachment portion of said attachment member includes first and second opposing clamp jaws configured to clamp onto a bone of a patient.

52. (Previously added) The surgical system of claim 51, wherein said bone attachment portion further comprises first and second locking assemblies.

53. (Previously added) The surgical system of claim 52, wherein said first locking assembly comprises:

- a first lever pivotally mounted on the first jaw;
- a second lever pivotally mounted on the second jaw; and
- a pivot interconnecting said first lever and said second lever.

54. (Previously added) The surgical system of claim 52, wherein said second locking assembly comprises:

a first threaded stud coupled with said first lever and extending to receive said robot receiving portion;

a second threaded stud coupled with said second lever and extending to receive said robot receiving portion; and

nuts received on said first and second threaded studs for coupling said bone attachment portion with said robot receiving portion.

55. (New) A surgical system for performing a procedure at a surgical site wherein a bone is associated with the surgical site and has a known relationship to the surgical site, said system comprising:

a surgical robot for manipulating a surgical tool at the surgical site;

an attachment member configured and dimensioned to be attached directly to the bone to define a fixed orientation between the bone and surgical robot; and

a controlled programmed prior to the surgical procedure to direct the robot to position the surgical tool with respect to the surgical site based at least in part on said fixed orientation.

56. (New) The surgical system of claim 55, wherein said attachment member is configured and dimensioned to cooperate between the bone and the robot to correspondingly reorient the robot in response to a reorientation of the bone resulting from movement of the bone whereby said fixed orientation is maintained.

57. (New) The surgical system of claim 56, wherein said attachment member comprises a bone attachment portion and a robot receiving portion, the bone attachment portion being configured for attachment to the bone and the robot receiving portion being mountable on the bone attachment portion for receiving the robot such that said fixed orientation is selectable.

58. (New) A surgical system, comprising:

a surgical robot for manipulating a surgical tool to a surgical site during a surgical procedure;

an attachment member configured and dimensioned to be attached directly to a bone associated with the surgical site, said attachment member providing a fixed orientation between the bone and surgical robot such that a reorientation of the bone resulting from movement of the bone results in a corresponding reorientation of the robot whereby said fixed orientation is maintained; and

a controller programmed prior to the surgical procedure to direct the robot to position the surgical tool with respect to the surgical site based in part on said fixed orientation.